Patent Assignee: Ricoh Co
Patent Number: US 6372689 **Patent Date:** 020416
Application Number: JP 11145165 **Application Date:** 990525
Publication Year: 2002
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 0206
Abstract: A thermal transfer **image receiving material** is described which consists of a **substrate** bearing an intermediate layer between 10 and 100 mu m **thick**, including hollow particles with a diameter not greater than 35 mu m, and a binder resin. On **top** of this **layer** is coated the **image receiving layer** between 1 and 10 mu m **thick**, which includes a resin, and which has a ten-point mean roughness less than 4 mu m.

17/7/3 (Item 3 from file: 248)
Fulltext available through: ScienceDirect
PIRA
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00419930 **Pira Accession Number:** 40002266
Title: ELECTROGRAPHIC IMAGING PROCESS
Authors: Cahill D A; Brault D A; Himmelwright R S
Patent Assignee: REXHAM GRAPHICS INC
Patent Number: US 5370960 **Patent Date:** 941206
Application Number: US 42283 **Application Date:** 930402
Publication Year: 1994
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 9504
Abstract: An electrographic element contains (a) a carrier layer, (b) a conductive layer and (c) a dielectric layer. After image-wise exposure and development, the toned **image layer** so produced adheres to the dielectric layer. A **protective layer** is then applied to the toned image: the layer contains (d), an adhesive layer, (e) a **protective layer**, and (f) a second carrier layer. The first carrier layer is removed, and the receptor **substrate** is laminated to the uncovered conductive layer (b), to produce a laminated image element, from which the second carrier layer (f) is then removed.

17/7/4 (Item 4 from file: 248)
Fulltext available through: ScienceDirect
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00097754 **Pira Accession Number:** 41704447
Title: THERMAL IMAGE RECEIVING SHEET
Authors: Takeyama T; Suzuki N; Kitamura S
Patent Assignee: KONICA CORP
Patent Number: US 5322832 **Patent Date:** 940621
Application Date: 911003
Publication Year: 1994
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 9406
Abstract: A method is disclosed of protecting the image produced in a thermal transfer recording system; the medium employed consists of a support bearing an **image-receiving layer**, with an adhesive layer provided in between the two. A **protective layer** is

laminated onto the image-receiving surface of the image-receiving **sheet**; either the support or the adhesive layer contains a fine powder, of particle size less than 200 nm, which is either titanium oxide or zinc oxide.

17/7/5 (Item 5 from file: 240)
PAPERCHEM
(c) 2007 Elsevier Eng. Info. Inc. All rights reserved.
00526685 **Paperchem No:** GA4303064
Imaging Element and Method for Making Aluminum Lithographic Printing Plates According to the Silver-Salt Diffusion Transfer Process
Coppens, P. J.; Jonckheere, M.
Patent Assignees: Agfa-Gevaert NV. (Mortsel: Belgium)
Patent Number: US 5405730 **Patent Date:** 950411 **Patent Class:** 430/204
Patent Application - Date of Application
US 266889 - 940705
EP 93202313 - 930805
Source: U.S. pat. 5,405,730. Issued April 11, 1995. 10 claims. 10 p. Cl.430/204. Filed: U.S. appln. 266,889} (July 5, 1994). Priority: Eur. appln. 202,313/93 (August 5, 1993). [Engl.]
Publication Year: 1995
Document Type: PATENT
Language: ENGLISH
A method for making an improved aluminum-base offset printing plate by the silver salt diffusion transfer process comprises image-wise exposure of an imaging element, applying an aqu. alkaline solution to the element in the presence of developer(s) and silver halide solvents to form a silver image and to allow unreduced silver halide or complexes formed therefrom to diffuse image-wise from the photosensitive layer to the **image-receiving layer** of the **substrate** to form a silver image, and treating the element to remove the **layer**(s) on **top** of the **image-receiving layer** so as to uncover the silver image. The imaging element is also claimed.

17/7/6 (Item 6 from file: 248)
Fulltext available through: ScienceDirect
PIRA
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00424481 **Pira Accession Number:** 40004946
Title: ID CARD
Authors: Kobayashi T; Nagayasu K
Patent Assignee: KONICA CORP
Patent Number: EP 645735 **Patent Date:** 950329
Application Number: JP 213683 **Application Date:** 930830
Publication Year: 1995
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 9506
Abstract: An (ID) identity **card** consists of a support carrying at least two layers which are an **image receiving layer** and a **protective layer** hardened by ultra-violet rays.

17/7/7 (Item 7 from file: 248)
Fulltext available through: ScienceDirect
PIRA
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00409774 **Pira Accession Number:** 40003542

Title: HEAT-TRANSFER SHEET
Authors: Fujimura H; Hanaki H
Patent Assignee: DAI NIPPON INSATSU KK
Patent Number: US 5397763 **Patent Date:** 950314
Application Number: JP 62228626 **Application Date:** 870914
Publication Year: 1995
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 9504
Abstract: A heat-transfer **sheet** consists of a **substrate sheet** which bears (a) an **image-receiving layer** consisting of a dyeable resin, which can be peeled from the surface of the **substrate sheet**, (b) an adhesive **layer** on the **top** of the **image-receiving layer**, (c) a heat-migratable dye layer which is formed on a plane on which this **image-receiving layer** is formed, and (d) a heat-resistant layer which is formed on a plane other than that of the **image-receiving layer** and the heat-migratable dye layer.

17/7/8 (Item 8 from file: 248)
Fulltext available through: ScienceDirect
PIRA
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00460201 **Pira Accession Number:** 40009816
Title: Image Receiving Sheet
Authors: Uemura H; Nogawa C; Mochizuki H; Kuboyama H; Ariga Y
Patent Assignee: Ricoh Co
Patent Number: US 5525573 **Patent Date:** 960611
Application Number: JP 5235068 **Application Date:** 930921
Publication Year: 1996
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 9606
Abstract: A sublimation-type thermal image transfer process employs a recording medium containing several layers, at least one of which includes a sublimable dye; its **top layer** includes a low dyeable resin **layer**. It is **superimposed** upon an image receiving **sheet** which consists of a **substrate** bearing an **image receiving layer** consisting of a cured resin. The sandwich is subjected to image-wise **heating**, which leads to the image-wise transfer of the sublimable dye.

17/7/10 (Item 10 from file: 248)
Fulltext available through: ScienceDirect
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00530154 **Pira Accession Number:** 40022129
Title: Thermal Transfer Donor Element
Authors: Blanchet-Finchet G B
Patent Assignee: E I Dupont de Nemours and Co
Patent Number: US 5840463 **Patent Date:** 981124
Application Number: US 891776 **Application Date:** 970714
Publication Year: 1998
Document Type: Patent
Language: English
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 3C
Abstract: A donor material for use in a laser-induced thermal transfer process contains a

photosensitive donor element which includes (a) a support, (b) a photohardenable layer (formed from a binder, at least one photohardenable component, and an initiator), (c) optionally a barrier layer and a cover **sheet**, (d) at least one ejection layer, and (e) at least one **top layer**. There is also provided a receiver element consisting of a support and optionally an **image-receiving layer**. In use, the **top layer** of the donor element comes into contact with the receiver element support (or the layer on that support). The laser-induced thermal transfer process is used to form a relief image on the photosensitive donor element.

17/7/12 (Item 12 from file: 248)
Fulltext available through: ScienceDirect
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00281673 **Pira Accession Number:** 41111654
Title: THERMALLY STABILIZED PHOTORESIST IMAGES
Authors: Grunwald J J; Spencer A C
Patent Assignee: MACDERMID INC
Patent Number: US 4701390
Application Date: 851127
Document Type: Patent
Language: unspecified
Pira Subfiles: Imaging Abstracts (IA)
Journal Announcement: 8803
Abstract: A process is described for thermally stabilizing a photoresist **image layer** which has been formed on a **substrate**. The image is coated with a **protective layer** of a thermally stabilizing material in water or a water-miscible solvent before the **image layer** is subjected to a post-development bake. Such a **protective layer** consists of one compound (or a mixture of more than one compound) selected from a group consisting of chromotropic acid, perfluorocarbon carboxylic acids, perfluorocarbon-sulphonic acids, perfluorocarbon phosphonic acids, and alkali metal, ammonium and amine salts of such acids, ethyoxylated perfluorocarbon alcohols, and quaternary ammonium salts of N-perfluoroalkyl-N',N"-dialkylamines.

26/7/1 (Item 1 from file: 2)
Fulltext available through: USPTO Full Text Retrieval Options
INSPEC
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03589015 **INSPEC Abstract Number:** B86008947
Title: Multilayer resist systems for optical and e-beam lithography
Author Todokoro, Y.; Takasu, Y.; Ohkuma, T.
Author Affiliation: Semicond. R&D Center, Matsushita Electron. Corp., Kyoto, Japan
Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.537 p. 179-87
Publication Date: 1985 **Country of Publication:** USA
CODEN: PSISDG **ISSN:** 0277-786X
Conference Title: Electron Beam, X-Ray, and Ion-Beam Techniques for Submicrometer Lithographies IV
Conference Sponsor: SPIE
Conference Date: 14-15 March 1985 **Conference Location:** Santa Clara, CA, USA
Language: English **Document Type:** Conference Paper (PA); Journal Paper (JP)
Treatment: Practical (P); Experimental (X)
Abstract: A three layer resist system using a spin-on intermediate layer has been described for optical and e-beam lithography. A **thick** bottom layer of positive photoresist, OFPR800 (Tokyo Ohka) was spun on to the **substrate**, flood-exposed by UV light, and baked for planarization. A **thin** intermediate layer of spin-on glass (SOG) or

spin-on indium tin oxide (ITO), and a **thin top layer** of OFPR800 or polymethyl methacrylate (PMMA) were successively spun on to the bottom layer. Transfer of the resist **image** pattern into the intermediate layer was performed anisotropically by reactive ion etching (RIE) in a C/sub 3/F/sub 8/ plasma for SOG or a CCl/sub 4//N/sub 2/ plasma for ITO. The pattern in the intermediate layer was then replicated in the bottom OFPR800 layer by RIE in an O/sub 2/ plasma. Experimental details are described. The planarizing characteristics of the bottom layer, OFPR800, increase with UV exposure and increasing baking temperature. For optical lithography, the complexity of bottom layer processing is discussed with particular emphasis on the planarizing characteristics, the absorption of the exposing wavelength, and the **alignment** accuracy. For e-beam lithography, spin-on indium tin oxide (ITO) has been developed to prevent the charging up of e-beams in the **thick** bottom layer. High resolution and good CD (critical dimension) control is achieved on the topographic **substrate** in optical and e-beam lithography. (10 Refs) **Subfile:** B

26/7/9 (Item 9 from file: 8)
Fulltext available through: ScienceDirect
Ei Compendex(R)
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07585666 **E.I. No:** EIP96093342204
Title: Multilevel 3D patterning of stacked PMMA sheets for x-ray microlithography
Author: Calderon, Gina; Morris, Kevin J.; Vladimirsky, Olga; Vladimirsky, Yuli
Corporate Source: Louisiana State Univ., Baton Rouge, LA, USA
Conference Title: Microlithography and Metrology in Micromachining II
Conference Location: Austin, TX, USA **Conference Date:** 19961014-19961015
Sponsor: SPIE - Int Soc for Opt Engineering, Bellingham, WA USA
E.I. Conference No.: 22632
Source: Proceedings of SPIE - The International Society for Optical Engineering v 2880 1996.. p 231-235
Publication Year: 1996
CODEN: PSISDG **ISBN:** 0-8194-2278-9
Language: English
Document Type: CA; (Conference Article) **Treatment:** X; (Experimental)
Journal Announcement: 9702W3
Abstract: This paper presents a novel technique for fabricating 3D patterns in a **thick** layered resist and describes an **alignment** aide designed for the specific application of **thick** resist x-ray micromachining. In this technique, a PMMA layer of desired **thickness** is formed on a **substrate** by spinning or solvent bonding. The layer is exposed with X-rays to generate a latent **image**. A second layer of PMMA is bonded **over** the first **layer** and is exposed with an appropriate mask, generating a latent **image** in the second layer. This process can be repeated several times creating a 3D latent **image**. Simultaneous development forms a true 3D pattern in the PMMA resist. 11 Ref.

```
[File 20] Dialog Global Reporter 1997-2007/Sep 26
(c) 2007 Dialog. All rights reserved.
Set     Items   Description
S1    3551103   S LABEL? ? OR STICKER? ? OR TAG? ? OR TICKET? ? OR CARD? ? OR SUBSTRATE?
? OR SUBSTRATUM OR SUBSTRATA OR BASE()LAYER? ? OR SHEET? ? OR THERMAL()(MEDIUM OR MEDIA)
S2         50   S (IMAGE()RECEIVING OR IMAGE)()(LAYER? ? OR SHEET? ?)
S3      17483   S (PROTECTIVE OR PROTECTING OR DONOR OR SUPERIMPOSED OR
SUPERPOSED)()(LAYER? ? OR SHEET? ?) OR OVERLAYER? ? OR (LAYER? ? OR SHEET?
?)(2N)(SUPERIMPOS??? OR SUPERPOS??? OR OVER OR TOP)
S4    3134031   S IMAGE OR IMAGES OR CODE OR CODES OR BARCODE OR BARCODES OR UPC OR
INDICIA OR INDICIUM OR SYMBOL? ? OR MARKING? ? OR GRAPHIC? ?
S5    3231509   S IDENTICAL OR REGISTRATION OR ALIGN? OR MATCH?
S6    3096855   S WIDE OR WIDER OR WIDTH OR THICK?? OR THICKNESS?? OR THIN OR THINNER
S7      31314   S ADHESIVE
S8     758499   S THERMAL()HEAD? ? OR HEAT OR HEATS OR HEATED OR HEATING OR HEATER? ?
S9     165276   S (MACHINE OR COMPUTER)()READABLE OR SCANN????
S10         0   S S1 AND S2 AND S3
S11      9707   S S1 AND S3
S12     16978   S S4(3N)S5
S13        13   S S11 AND S12 AND S6
S14         1   S S7:S8 AND S13 [not relevant]
S15        13   RD S13  (unique items)
S16        13   SORT S15/ALL/PD,A [not relevant]
S17        13   S S1(S)S3(S)S4(S)S5(S)S6
S18        13   S S17 NOT S13
S19        13   RD  (unique items)
S20        13   SORT S19/ALL/PD,A [not relevant]
S21      2849   S S9()S4
S22         1   S S3(S)S21 [too recent]

[File 16] Gale Group PROMT(R) 1990-2007/Sep 24
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[File 160] Gale Group PROMT(R) 1972-1989
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[File 47] Gale Group Magazine DB(TM) 1959-2007/Sep 12
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[File 636] Gale Group Newsletter DB(TM) 1987-2007/Sep 21
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[File 13] BAMP 2007/Sep W3
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[File 649] Gale Group Newswire ASAP(TM) 2007/Sep 21
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[File 9] **Business & Industry(R)** Jul/1994-2007/Sep 18
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[File 275] **Gale Group Computer DB(TM)** 1983-2007/Sep 20
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[File 995] **NewsRoom 2002**
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[File 996] **NewsRoom 2000-2001**
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Set	Items	Description
S1	10313626	S LABEL? ? OR STICKER? ? OR TAG? ? OR TICKET? ? OR CARD? ? OR SUBSTRATE? ? OR SUBSTRATUM OR SUBSTRATA OR BASE()LAYER? ? OR SHEET? ? OR THERMAL()(MEDIUM OR MEDIA)
S2	594	S (IMAGE()RECEIVING OR IMAGE)()(LAYER? ? OR SHEET? ?)
S3	70758	S (PROTECTIVE OR PROTECTING OR DONOR OR SUPERIMPOSED OR SUPERPOSED)()(LAYER? ? OR SHEET? ?) OR OVERLAYER? ? OR (LAYER? ? OR SHEET? ?)(2N)(SUPERIMPOS??? OR SUPERPOS??? OR OVER OR TOP)
S4	11029515	S IMAGE OR IMAGES OR CODE OR CODES OR BARCODE OR BARCODES OR UPC OR INDICIA OR INDICIUM OR SYMBOL? ? OR MARKING? ? OR GRAPHIC? ?
S5	7068692	S IDENTICAL OR REGISTRATION OR ALIGN? OR MATCH?
S6	9654546	S WIDE OR WIDER OR WIDTH OR THICK?? OR THICKNESS?? OR THIN OR THINNER
S7	144677	S ADHESIVE
S8	2253993	S THERMAL()HEAD? ? OR HEAT OR HEATS OR HEATED OR HEATING OR HEATER? ?
S9	0	S S1(S)S2(S)S3
S10	26518	S S1(S)S3
S11	70415	S S4(5N)S5
S12	23	S S10(S)S11
S13	0	S S6(S)S12
S14	169	S S10(S)S6(S)S4
S15	10	S S14(S)S5
S16	10	S (S12 OR S14)(S)S7:S8
S17	8	RD (unique items)
S18	**8**	**SORT S17/ALL/PD,A**
S19	32	S (S12 OR S15) NOT S16
S20	21	RD (unique items)
S21	2	S S20/2003:2004
S22	0	S S20/2005
S23	2	S S20/2006:2007
S24	17	S S20 NOT S21:S23
S25	**17**	**SORT S24/ALL/PD,A**
S26	198	S MACHINE()READABLE()S1
S27	0	S S26(S)S3

18/9/1 (Item 1 from file: 160)
Gale Group PROMT(R)
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02144886
KROY INTRODUCES HIGH-TECH LABEL MAKER
News Release January 12, 1989 p. 1
Labeling and lettering projects around the office are about to go high-tech with the new Kroy DuraType 200. The Kroy DuraType portable labeling system integrates data entry and character display into a 31-ounce, battery-powered unit. Its built- in, high-resolution printer produces 1/2-inch **wide** strips of lettering on **adhesive**-backed clear, white or black tape and letters in black, red, blue or gold. In seconds the $229 hand-held DuraType can be used to **label** a file folder, computer disk, parts bin, video tape or name **tag**; any application where permanent, legible identification is required. A major technological innovation of the DuraType - giving the compact unit its name - is the way

in which the letter **image** is protected from damage. Instead of printing the lettering onto the surface of the tape, as most lettering systems do, the DuraType prints onto the middle of three layers of transparent or opaque film. A durable, clear, **top layer** and an aggressive **adhesive** base are then bonded inside the tape cartridge to form the ready-to-apply **label.**

25/3,K/7 (Item 7 from file: 16)
Gale Group PROMT(R)
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05821391 **Supplier Number:** 50329136 **(USE FORMAT 7 FOR FULLTEXT)**
How Team Play by Vendors is Yielding Dot-for-Dot Digital Proofing Solutions
Antoniak, Mike
Printing News , p 15
Sept 7 , 1998
Language: English **Record Type:** Fulltext
Document Type: Magazine/Journal ; Trade
Word Count: 1173
...printing equipment.

The PEARLhdp system can produce a four-page proof up to 20x29" on Matchprint laser media measuring 23.3x30". The system operator loads **donor sheets** containing the colors as the proof is being imaged. The system's laser imaging system transfers Matchprint pigments from the **donor sheet** to a receptor **sheet**. Once the color transfer is complete, the receptor **image** is laminated to **Matchprint** base media to produce the proof.

The time that is required to image each proof is determined by the desired image resolution. Presstek estimates that...

25/3,K/11 (Item 11 from file: 996)
NewsRoom 2000-2001
(c) 2006 Dialog. All rights reserved.
0173025909 158U0T9N
How to paint "tribal" graphics
Hastings, Bob
Radio Control Car Action , v 15 , n 11 , p 158
Thursday , November 30, 2000
Journal Code: ANBN **Language:** ENGLISH **Record Type:** Fulltext
Document Type: Magazine **ISSN:** 0886-1609
Word Count: 922
...paper over this negative and color it with a pencil; the graphic will appear in the pencil tone. Now lay the graphic, penal side down, **over** a new **sheet** of tape and trace its outline; the pencil will be transferred to the tape to form a perfect mirror image of your first graphic. The...

25/3,K/16 (Item 16 from file: 16)
Gale Group PROMT(R)
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08893703 **Supplier Number:** 76953654 **(USE FORMAT 7 FOR FULLTEXT)**
SECTION 3: PREPRESS & PLATEMAKING.
Printing Impressions , v 44 , n 2 , p 99
July , 2001
Language: English **Record Type:** Fulltext

Document Type: Magazine/Journal ; Trade
Word Count: 25714
...Matchprint digital halftone proofing products for CTP workflows offer faithful screening and file reproduction, resulting in true dot-to-dot fidelity between proof and press **sheet**. Precision coated color **donor sheets** deliver color **images** to **Matchprint** dedicated base or transfer to customer's print stock. Available in multiple color sets, with custom color **sheets** to support CreoScitex and Presstek halftone proofers.

Matchprint Inkjet System addresses the growth in "concept proofing" in the creative markets. Comprised of Imation Matchprint RIP...

[File 350] **Derwent WPIX** 1963-2007/UD=200761
(c) 2007 The Thomson Corporation. All rights reserved.
[File 347] **JAPIO** Dec 1976-2007/Mar(Updated 070809)
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```
Set     Items   Description
S1    2809635   S LABEL? ? OR STICKER? ? OR TAG? ? OR TICKET? ? OR CARD? ? OR SUBSTRATE?
? OR SUBSTRATUM OR SUBSTRATA OR BASE()LAYER? ? OR SHEET? ? OR THERMAL()(MEDIUM OR MEDIA)
S2      19010   S (IMAGE()RECEIVING OR IMAGE)()(LAYER? ? OR SHEET? ?)
S3     226392   S (PROTECTIVE OR PROTECTING OR DONOR OR SUPERIMPOSED OR
SUPERPOSED)()(LAYER? ? OR SHEET? ?) OR OVERLAYER? ? OR (LAYER? ? OR SHEET?
?)(2N)(SUPERIMPOS??? OR SUPERPOS??? OR OVER OR TOP)
S4    2162236   S IMAGE OR IMAGES OR CODE OR CODES OR BARCODE OR BARCODES OR UPC OR
INDICIA OR INDICIUM OR SYMBOL? ? OR MARKING? ? OR GRAPHIC? ?
S5     956128   S IDENTICAL OR "IN" ()REGISTRATION OR ALIGN? OR MATCH?
S6    2914514   S WIDE OR WIDER OR WIDTH OR THICK?? OR THICKNESS?? OR THIN OR THINNER
S7     539974   S ADHESIVE
S8    3092926   S THERMAL()HEAD? ? OR HEAT OR HEATS OR HEATED OR HEATING OR HEATER? ?
S9     466797   S (MACHINE OR COMPUTER)()READABLE OR SCANN????
S10      1631   S S1(S)S2(S)S3
S11      3529   S S4(5N)S5 AND S6
S12        13   S S10 AND S11
S13     18206   S S9()S4
S14         0   S S10(S)S13 AND S5 AND S6
S15         0   S S10 AND S13 AND S5 AND S6
S16        22   S S10 AND S9 AND S6
S17        12   S S10 AND S9 AND S5
S18         2   S S16 AND S17
S19         1   S S18 NOT S12 [not relevant]
S20        32   S S16:S17
S21        30   S S20 NOT (S12 OR S18)
S22        17   S S7:S8 AND S21
S23        13   S S21 NOT S22
```

12/25,K/3 (Item 3 from file: 350)
Derwent WPIX
(c) 2007 The Thomson Corporation. All rights reserved.
0013961390 *Drawing available*
WPI Acc no: 2004-142066/200414
XRAM Acc no: C2004-056934
XRPX Acc No: N2004-113343
Write head used in disk drive, has write pole tip joined to developed region by self-assembly bond, such that width of pole tip is equal to width of developed region
Patent Assignee: ECKERT A R (ECKE-I); LIU C (LIUC-I); SEAGATE TECHNOLOGY LLC (SEAG-N); YANG X (YANG-I)
Inventor: ECKERT A R; LIU C; YANG X
Patent Family (4 patents, 99 countries)

Patent Number	Kind	Date	Update	Type
US 20030235008	A1	20031225	200414	B
WO 2004001756	A1	20031231	200414	E
AU 2002343560	A1	20040106	200447	E
US 6822833	B2	20041123	200477	E

Local Applications (no., kind, date): US 2002390743 P 20020621; US 2002277772 A 20021022; WO 2002US33693 A 20021022; AU 2002343560 A 20021022; US 2002277772 A 20021022
Priority Applications (no., kind, date): US 2002390743 P 20020621; US 2002277772 A 20021022
Alerting Abstract US A1

NOVELTY - A self-assembled **image layer** (182) comprises an organic patterned monolayer that is formed over trailing edge surface (154) of substrate, and a developed region (190) aligned with air-bearing surface (156). A write pole tip (144) is joined by a self-assembly bond to the developed region, such that the pole tip **width** is equal to the **width** of the developed region.
DESCRIPTION - The monolayers comprise nano-particles having spherical shape and rod shape. The write pole tip has aspect ratio of 10:1. The self-assembled image layer comprises alkylsiloxane or alkylthiol or octadecyltrichlorosilane. INDEPENDENT CLAIMS are also included for the following:
disk drive component; and
self-assembled disk drive component formation method.
USE - For accessing data in disk drive.
ADVANTAGE - Facilitates self-assembly of features with well defined narrow widths. Precisely registers the self-assembly of nano-particles with features of the head.
DESCRIPTION OF DRAWINGS - The figure shows a schematically enlarged view of the read/write head.
154 edge surface
156 air-bearing surface
144 write pole tip
190 developed region
182 self-assembled image layer

Original Abstracts: A component for use in a disc drive includes a component substrate having a **substrate** surface. A self-assembled **image layer** is formed **over the substrate** surface. **The** self-**assembled image layer** includes a **developed region** defining a feature with a developed **width**. Each component also **includes** a feature layer that is self-**assembled over the image layer**. The feature **layer** is joined by a self-assembly process to the developed region. The feature layer has a feature **width** that is limited **to** the developed **width**...

Claims: ...that comprises an organic monolayer that is formed over the trailing edge surface, the self-assembled image layer including a developed region having a developed **width aligned** with the **air** bearing surface; and a write top pole including **a** write pole tip that is joined by a self-assembly bond to the developed region, the write pole tip having a pole tip **width** that is limited to the developed **width**. ... ... that comprises an organic monolayer that is formed over the trailing edge surface, the self-assembled image layer including a developed region having a developed **width aligned** with **the** air bearing surface; and a write top pole including a write pole tip that is joined by a self-assembly bond to the developed region, the **write** pole tip having a pole tip **width** that is limited to the developed **width.**

12/25,K/4 (Item 4 from file: 350)
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0013108554 *Drawing available*
WPI Acc no: 2003-190131/200319
Related WPI Acc No: 2003-061872; 2003-737164
XRPX Acc No: N2003-150473
Multicolor image formation method for color printer, involves using thermal transfer sheet satisfying specific optical density and thickness ratio to transfer image of specific resolution after color matching
Patent Assignee: FUJI PHOTO FILM CO LTD (FUJF)
Inventor: HATAKEYAMA A; SHIMOMURA A; SHIMOMURA T; TANAKA T
Patent Family (4 patents, 2 countries)

Patent Number	Kind	Date	Update	Type
JP 2002355997	A	20021210	200319	B

US 20030043259	A1	20030306	200320	E
JP 3429298	B2	20030722	200350	E
US 6856337	B2	20050215	200513	E

Local Applications (no., kind, date): JP 200263567 A 20020308; US 2002100071 A 20020319; JP 200263567 A 20020308; US 2002100071 A 20020319
Priority Applications (no., kind, date): JP 200263567 A 20020308; JP 200179596 A 20010319; JP 200179603 A 20010319; JP 200179601 A 20010319

Alerting Abstract JP A
NOVELTY - An image formed on a thermal transfer sheet consisting of **image forming layer** satisfying specific **thickness** is transferred onto a **image receiving sheet**. The ratio of optical density and **thickness** of image forming layer is 1.50 or more and resolution of transfer image is set more than 2400dpi. The color of transferred **images** is **matched** during transfer onto the receiving sheet.
DESCRIPTION - An INDEPENDENT CLAIM is included for multi image forming material.
USE - For multicolor printer e.g. laser thermal transfer printer.
ADVANTAGE - Enables forming color images stably without moire generation and deformation of image receiving sheet.
DESCRIPTION OF DRAWINGS - The figure shows a functional flow diagram of laser thermal image transfer. (Drawing includes non-English language text).

Original Abstracts: ...each of the image-forming layers in the at least four thermal transfer sheets has a ratio of an optical density (OD) to a layer **thickness**: OD/layer **thickness** (mum unit) of 1.50 **or** more; **superposing the** image-forming layer in each of the at least four thermal transfer **sheets** on the **image-receiving layer** in the **image-receiving sheet**, in **which the image**-forming layer **is opposed to** the **image-receiving layer**; irradiating the image-forming layer in **each of the** at least four thermal transfer **sheets** with a laser beam; and transferring the irradiated **area** of the image-forming layer onto the **image-receiving layer** in the **image-receiving sheet** to **record an image**, in which **the transferred image** onto the **image-receiving sheet** has a resolution of 2400 dpi **or more**, **where** in a color **matching** process is performed before the **image** is recorded **on** the **image-receiving sheet**. ... ... each of the image-forming layers in the at least four thermal transfer sheets has a ratio of an optical density (OD) to a layer **thickness**: OD/layer **thickness** (mum unit) of 1.50 or more; superposing the image-forming layer in each of **the** at least **four** thermal transfer sheets on the **image-receiving layer** in the **image-receiving sheet**, in which the image-forming layer is opposed **to** the **image-receiving layer**; **irradiating** the image-**forming layer in** each of the at least four thermal transfer sheets with **a laser beam**; and transferring the irradiated area of the image-forming layer onto the **image-receiving layer** in the **image-receiving sheet** to record an image, in which the transferred **image** onto the **image-receiving sheet** has a **resolution of 2400** dpi or more, **where** in a color **matching** process is performed **before the image** is recorded on the **image-receiving sheet.**

Claims: ...of the at least four thermal transfer sheets has a different color; **superposing** the image-forming layer in each of the at least four thermal transfer sheets on the **image-receiving layer** in the image-receiving sheet, in which the image-forming layer is opposed to the image-receiving layer; irradiating the image-forming layer in each of the at least four thermal transfer sheets with a laser beam; and transferring the irradiated area of the image-forming layer onto the **image-receiving layer** in the image-receiving sheet to record an image, in which the transferred image onto the image-receiving sheet has a resolution of 2400 dpi or more, wherein each of the image-forming layers in the at least four thermal transfer sheets has a ratio of an optical density (OD) to a layer thickness: OD/layer thickness (mum unit) of 1.50 or more, and a color matching process is performed before the image is recorded on the image-receiving sheet.... ... layer and an image-forming layer, in which each of the thermal transfer sheets has a different color, wherein a multicolor image is formed by: superposing the

image-forming layer in each of the at least four thermal transfer sheets on the image-receiving layer in the image-receiving sheet, in which the image-forming layer is opposed to the image-receiving layer; irradiating the image-forming layer in each of the at least four thermal transfer sheets with a laser beam; and transferring the irradiated area of the image-forming layer onto the image-receiving layer in the image-receiving sheet to form an image, andeach of the image-forming layers in the at least four thermal transfer sheets has a ratio of an optical density (OD) to a layer thickness: OD/layer thickness (mum unit) of 1.50 or more, andthe transferred image onto the image-receiving sheet has a resolution of 2,400 dpi or more, anda color matching process is performed before the image is recorded on the image-receiving sheet.

12/25,K/5 (Item 5 from file: 350)
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0012315795
WPI Acc no: 2002-257373/200230
XRAM Acc no: C2002-076572
XRPX Acc No: N2002-199262
Receptor for use in a laser thermal transfer imaging system, comprises a support, a thermal absorbing layer, and a releasable image receiving layer
Patent Assignee: IMATION CORP (IMAT)
Inventor: WANG T; ZWADLO G L
Patent Family (1 patents, 22 countries)

Patent Number	Kind	Date	Update	Type
WO 2002009948	A2	20020207	200230	B

Local Applications (no., kind, date): WO 2001US23813 A 20010727
Priority Applications (no., kind, date): US 2000221066 P 20000727

Alerting Abstract WO A2
NOVELTY - A receptor comprises in order: a support, a thermal absorbing layer capable of dissipating heat from a laser, and a releasable image receiving layer having a textured outer surface comprising several protrusions projecting above the plane of the outer surface of the receiving layer by a distance not greater than 8 microm and having on average at least 1 of several protrusions per pixel.
DESCRIPTION - A receptor comprising in order; a support, a thermal absorbing layer having a **thickness** of 7.5 microm which is capable of dissipating heat from a laser, a releasable **image receiving layer** with a coating weight of 0.54 - 4.3 g/m^2 and a textured outer surface comprising several protrusions projecting above the plane of the outer surface of the receiving layer by a distance not greater than 8 microm and having on average at least 1 of several protrusions per pixel. An INDEPENDENT CLAIM is also included for a method of half tone imaging comprising:
providing the above receptor;
providing a color donor comprising a support having deposited thereon a color transfer layer comprising a binder, a colorant, and a radiation absorber;
placing in mutual contact the textured surface of the receptor and the color transfer layer of the color donor to form a composite;
exposing the composite to scanned laser radiation of a wavelength absorbed by the radiation absorber, in which the laser radiation being focused to a spot at the plane of the color transfer layer and being modulated in accordance with digital half tone image information, and thereby causing exposed portions of the color transfer layer to soften or melt and adhere preferentially to the receptor **sheet**; and
peeling apart the receptor and color donor.
USE - The receptor is used in a laser thermal transfer imaging system.
ADVANTAGE - The incorporation of a thermal absorbing layer underlying the **image receiving layer** significantly reduces image distortion caused by localized over heating.

Technology Focus ...inert particles or by embossing an **image receiving layer**. The image receiving layer further comprises a compound capable of bleaching the radiation absorber of the **donor sheet**.

Extension Abstract ...watts of power across 208 pixels. Exposure values were optimized by adjusting drum speed of 35-125 rpm. The resultant 4-color image was transferred **under** heat and pressure to opaque **MATCHPRINT** low gain base primed with an adhesive layer by passing the receptor and base in contact through a MATCHPRINT laminator. The **receptor** sheet was removed and the **image** inspected. The quality of the transferred image was excellent having good color rendition, no dust artifacts and no distortion within an exposure swath.

Original Abstracts: A receptor, and method of forming a half tone image thereon. The receptor includes in order: a support; a thermal absorbing layer having a **thickness** of at least **about** 7.5 mum which is capable of dissipating heat from a laser; and a releasable image receiving layer having a coating weight of about 0...

12/25,K/6 (Item 6 from file: 350)
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0010350994
WPI Acc no: 2000-666485/200065
Related WPI Acc No: 2003-484858
XRAM Acc no: C2000-202042
XRPX Acc No: N2000-493989
Manufacture of plastic card, e.g. credit, charge or debit card useful in financial transactions, involves providing lenticular lens material
Patent Assignee: MBNA AMERICA BANK NA (MBNA-N)
Inventor: GREEN S; MCGONIGLE G; PFINGST D M; WANG J
Patent Family (6 patents, 26 countries)

Patent Number	Kind	Date	Update	Type
EP 1046515	A1	20001025	200065	B
CA 2298353	A1	20001022	200101	E
US 6277232	B1	20010821	200150	E
EP 1046515	B1	20040407	200425	E
DE 69916242	E	20040513	200434	E
ES 2221302	T3	20041216	200506	E

Local Applications (no., kind, date): EP 1999203598 A 19991101; CA 2298353 A 20000214; US 1999295600 A 19990422; EP 1999203598 A 19991101; DE 69916242 A 19991101; EP 1999203598 A 19991101; EP 1999203598 A 19991101
Priority Applications (no., kind, date): EP 1999203598 A 19991101; US 1999295600 A 19990422

Alerting Abstract EP A1
NOVELTY - Manufacture of a plastic card involves providing a sheet of lenticular lens material, coating a back side of the material with a vinyl resin base, printing the back side of the material with a composite lithographic image, coating the back side of the material with an **adhesive** to serve as the back of the plastic card, and laminating the sheets together.
DESCRIPTION - Manufacture of a plastic card involves:
providing a lenticular lens material having front and back sides, with an array of **identical** spherically curved surfaces embossed on the front side and flat on the back side;
coating the back side of the lens material with a vinyl resin base;

printing the back side of the lens material with a filmed image;
coating the back side of the lens material with an **adhesive** such that it can adhere to a sheet of plastic which serves as a back side of the plastic card;
providing a sheet of plastic having a front and a rear surface;
printing the rear surface of the plastic sheet;
providing a sheet of clear polyvinyl chloride (PVC) **overlay** film;
laminating magnetic material onto the sheet of overlay film;
assembling and collating the lens material, sheet of plastic and sheet of overlay material with laminated magnetic material such that the sheet of lens material is oriented on the top of the three sheets and the plastic sheet is oriented in the middle of the three sheets, and
laminating the three sheets with the magnetic material at approximately 290(deg)F and a pressure of 200 psi for approximately 25-30 minutes.
An INDEPENDENT CLAIM is also included for a plastic card prepared by the above method.
USE - In a financial transactions (claimed), e.g. credit, charge or debit cards.
ADVANTAGE - Provides a plastic card having artistic, visual images creating the illusions of depth and moving effects imprinted on the card. The plastic card meets the financial industry standards for security, reliability and durability.

Technology Focus POLYMERS - Preferred Components: The sheet of lens material comprises PVC plastic of approximately 0.014 inches **thickness** and the sheet of plastic comprises a white PVC core stock material of approximately 0.0135 inches **thickness**. The adhesive comprises a vinyl acetate co-polymer ... Original Publication Data by Authority...

Claims: ...sheet of plastic and the sheet of clear PVC **overlay** film with laminated magnetic material so that the sheet of lenticular lens material is oriented **on** the **top** of the three **sheets** and the **sheet** of plastic is **oriented** in the middle of the three **sheets**; andj. laminating the assembled, **collated sheets** of **lenticular** lens material, plastic and clear PVC overlay film laminated with **magnetic** material.... ... 15);c. printing over the vinyl resin base (15) on the back side (14) of the sheet of lenticular lens material (12) with a filmed **image** (16);d. coating the back side (14) of the sheet of lenticular lens material (12) with an adhesive (17) after the printing;e. providing a

12/25,K/10 (Item 10 from file: 350)
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0008284194
WPI Acc no: 1997-393507/199736
XRAM Acc no: C1997-126417
XRPX Acc No: N1997-327537
Imaging apparatus used for lithographic offset printing - comprises IR laser diodes and stationary telecentric lens assembly which allows member to be inked quicker therefore saving time and labour costs, etc.
Patent Assignee: AIT ISRAEL ADVANCED TECHNOLOGY LTD (AITI-N); KBA ADVANCED IMAGING TECHNOLOGY ISRAEL L (SKBA); SCITEX CORP LTD (SCIT-N)
Inventor: BEN O I; BEN OREN I; BENEZRA A; FIGOV M; STEINBLATT S
Patent Family (7 patents, 72 countries)

Patent Number	Kind	Date	Update	Type
WO 1997027065	A1	19970731	199736	B
AU 199713976	A	19970820	199749	E
EP 876260	A1	19981111	199849	E
EP 876260	B1	20040107	200405	E
DE 69727126	E	20040212	200419	E
IL 125501	A	20040620	200446	E
US 6989854	B1	20060124	200608	E

Local Applications (no., kind, date): WO 1997IL28 A 19970122; AU 199713976 A 19970122; EP 1997900412 A 19970122; WO 1997IL28 A 19970122; EP 1997900412 A 19970122; WO 1997IL28 A 19970122; DE 69727126 A 19970122; EP 1997900412 A 19970122; WO 1997IL28 A 19970122; IL 125501 A 19970122; WO 1997IL28 A 19970122; US 1998525579 A 19980724
Priority Applications (no., kind, date): IL 116885 A 19960124

Alerting Abstract WO A1
Imaging apparatus (22) has IR laser diodes (32A-32E), each coupled to a corresponding optical fibre (33A-33E). The optical fibres are aligned at a distance from an exposure surface (25) and provide an output light beam. A stationary telecentric lens assembly (35) operates to image the output light beam (38) onto the exposure surface.
Also claimed are: (1) a method for controlling the spot size (39) of the imaging apparatus by selectively varying the intensity of the laser diodes during exposure so as to reduce or increase the resulting spot size; (2) a system for exposing a printing member with a pattern representing an image to be printed having a drum on which the IR sensitive printing member is mounted, the drum being rotatable to affect interline exposure of the printing member with the information representing the image which is provided by the output light beam of the above claimed imaging apparatus, the apparatus being moved parallel to the longitudinal axis of the drum so as to affect intra-line exposure of the printing member; (3) a printing member having a **substrate layer over which there is provided a layer which has been subjected to ablative absorption to provide an image pattern,** this second layer enabling the adherence of at least one ink, a **third layer which is non-adhesive to the ink being provided over the second layer**; and (4) a printing apparatus with means for supporting the above claimed printing member and having at least one laser source, as claimed above, producing an imaging output that is guided to focus on the printing member, relative movement being caused between the guiding means and support means to effect a scan of the printing member to ablate the radiation absorbing layer of the printing member incompletely and produce an array of image features in it.
USE - The imaging apparatus and the printing apparatus in which it is incorporated are used for lithographic offset printing.
ADVANTAGES - The distance between the surface coating layer of the printing member or plate and the ablated layer carrying the image and retaining the ink is minimised to provide the member with desired printing characteristics similar to those of planographic plates. The member can be inked more quickly and easily saves time and labour costs and less pressure is required, resulting in less wear and a longer working life.

Documentation Abstract ...PREFERRED PRINTING MEMBER - The **substrate layer** is 150-400 mum **thick** and includes polyester and/or metal, especially aluminium. The second layer is oleophilic to the ink and the third layer oleophobic. The second layer, which...

Original Abstracts: ...ablative infra-red radiation. The printing members include a first **substrate** layer, with a second radiation absorbing **layer** over this first layer, for supporting an **image ablated onto** the printing **member**. A **third** surface **coating layer** is **over** the second **layer**. The third **layer is** substantially **abdhesive** to ink **while** the second layer has an affinity for ink opposite that of the third layer. Methods for imaging with the apparatus and for imaging the printing... ...

Claims:...to 33E), the optical fibers (33A to 33E) being aligned at a distance from an exposure surface and providing an output light beam; anda **lens** assembly (38) which operates to **image** said output light beam onto said exposure surface, **characterised in that** the lens assembly (35) is telecentric and is stationary relative to the IR laser...

12/25,K/11 (Item 11 from file: 350)
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0008206400
WPI Acc no: 1997-310757/199728
Related WPI Acc No: 1999-083448; 2001-079336
XRAM Acc no: C1997-100049
XRPX Acc No: N1997-257388
Donor element for use in laser-induced thermal transfer process - comprises flexible polymeric ejection layer(s), heating layer(s) and polymeric transfer layer(s) contg. imageable component
Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO)
Inventor: BLANCHET-FINCHER G B
Patent Family (7 patents, 18 countries)

Patent Number	Kind	Date	Update	Type
WO 1997020252	A1	19970605	199728	B
US 5766819	A	19980616	199831	E
EP 864118	A1	19980916	199841	E
EP 864118	B1	20000816	200040	E
DE 69609860	E	20000921	200055	E
JP 2002517163	W	20020611	200253	E
JP 3421054	B2	20030630	200343	E

Local Applications (no., kind, date): WO 1996US18970 A 19961127; US 1995564546 A 19951129; US 1996757717 A 19961126; EP 1996942074 A 19961127; WO 1996US18970 A 19961127; EP 1996942074 A 19961127; WO 1996US18970 A 19961127; DE 69609860 A 19961127; EP 1996942074 A 19961127; WO 1996US18970 A 19961127; WO 1996US18970 A 19961127; JP 1997520641 A 19961127; WO 1996US18970 A 19961127; JP 1997520641 A 19961127
Priority Applications (no., kind, date): US 1995564546 A 19951129; US 1996757717 A 19961126

Alerting Abstract WO A1
A **donor** element comprises: (a) a flexible ejection **layer**(s)comprising a first polymer having a decomposition temp. T1; (b) a **heating layer**(s); and (c) a transfer layer(s) comprising (i) a second polymer having a decomposition temp. of T2, where T2 >= (T1 + 100); and (ii) an imageable component. During a transfer process the **donor** element does not include an inflexible **support substrate** having a tensile modulus of >= 2.9 GPa. Also claimed are (1) a **further donor element** comprising a flexible polymeric bottom layer having a tensile modulus of <= 2.5 GPa, and an ejection layer(s); (2) a laser-induced, thermal transfer process comprising imagewise exposing to laser radiation an assembly comprising the donor element, opt. contg. the flexible bottom layer, whose transfer layer is in contact with a **receiver element**, allowing a substantial amt. of transfer, and then sepg. the two elements; (3) an assembly for use in the above process; and (4) a further laser induced, thermal transfer process, where pref. the receiver element is overall exposed to actinic radiation through the photomask and then developed to at least remove the photomask and areas of photohardenable layer which was not exposed to the radiation.
USE - The donor element is used in a laser-induced thermal transfer process (claimed). It is used in proofing and lithographic printing applications, including flexographic printing plates and photoresists. The photomasks create a relief image with a photosensitive element.
ADVANTAGE - It is not necessary for multiple use of a photo tool which has to be correctly aligned prior to imagewise exposure. The donor element has improved sensitivity and image transfer efficiency.

Documentation Abstract ...necessary for multiple use of a photo tool which has to be correctly aligned prior to imagewise exposure. The donor element has improved sensitivity and **image** transfer efficiency... ... process the donor element does not include a support. (a) has a tensile modulus of <= 2.5 GPa. The element comprises a 25-200 mum **thick** flexible ejection layer, a 20Angstroms-0.1 mum **thick** heating layer **and** a 0.1-50 mum **thick** transfer layer. **The image transfer** efficiency of the element is > 0.9 at a laser

fluence of 257 mJ/cm2 and the sensitivity is < 257 mJ/cm2...

12/25,K/12 (Item 12 from file: 350)
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0007353661
WPI Acc no: 1995-092170/199513
XRAM Acc no: C1995-041711
XRPX Acc No: N1995-072897
Off-press laminator for image sheet - has pre-proof temp. controlling assembly to prevent heat wicking up the carrier plate
Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO)
Inventor: MARION M P; OTTO D C
Patent Family (7 patents, 6 countries)

Patent Number	Kind	Date	Update	Type
EP 640473	A1	19950301	199513	B
AU 199468828	A	19950302	199516	E
CA 2130420	A	19950224	199521	E
US 5476568	A	19951219	199605	E
US 5487801	A	19960130	199611	E
EP 640473	B1	19981209	199902	E
DE 69415103	E	19990121	199909	E

Local Applications (no., kind, date): EP 1994112157 A 19940804; AU 199468828 A 19940801; CA 2130420 A 19940818; US 1993110458 A 19930823; US 1995365063 A 19950105; US 1993110458 A 19930823; US 1994344756 A 19941123; EP 1994112157 A 19940804; DE 69415103 A 19940804; EP 1994112157 A 19940804
Priority Applications (no., kind, date): US 1993110458 A 19930823; US 1994344756 A 19941123; US 1995365063 A 19950105

Alerting Abstract EP A1
Off-press laminator (12) for laminating an **image sheet** to a **substrate** (32) supported on a carrier plate (34) has two driven lamination roller assemblies (40,42) mounted in parallel between left and right support frames (36,38) so as to form a nip (44), both assemblies and means for **heating** them to a first temp. T1 being enclosed in a housing (52) with an inlet (54) and outlet (56) and means for heating the enclosed space to a second temp. T2 below T1. A sheet preparation and feed table (14) is mounted adjacent the housing inlet and a sheet output receiving table (16) is mounted adjacent the outlet. A pre-proof temp. controlling assembly (8) has a tray (62) with top and bottom surfaces (64,66) extending from the inlet to the nip along which an image sheet placed or stacked on an **image receiving substrate** on a carrier plate on the table can be slid from the inlet into the nip so as to be transported through it and then out of the outlet onto the receiving table and means are provided for controlling the temp. of the stacked sheet, substrate, and carrier plate on the tray at a third temp. T3 above room temp. T4 but below T2 as they are transported to and through the nip. Also claimed is a method for laminating a precoloured image photosensitive element to an image receiving substrate and then to a transfer sheet to form a proof using the appts..
USE - Laminate is used to combine colour separations to create a coloured image on proof to be able to review the final image before making printing plates and running a press.
ADVANTAGE - The pre-proof temp. controlling assembly effectively prevents heat wicking up the carrier plate and ensures uniform heating of the lamination stack so that dimensional changes of the colour image elements and substrate are reduced to improve registration of the proof.

Claims: ...comprising: a tray with a top surface and a bottom surface, the top surface extending from the housing inlet to about the nip such that **when** an **image sheet** is placed

or stacked on an image receiving **substrate** on a **carrier plate** on the table and the stacked **sheet**, **substrate and** carrier plate are slid along the table into the housing **inlet along** the **top** surface of the tray into the nip between the first roller assembly and the second roller assembly, the roller assemblies will transport the stacked **sheet**, **substrate** and carrier plate between the roller assemblies, laminate the **sheet** and **substrate together** and transport the laminated **sheet** and **substrate** and the **carrier** plate **out** the housing outlet onto the **sheet** output **receiving** table; and means for controlling the temperature of the stacked **sheet**, **substrate** and carrier plate on the tray at about a third temperature T3 **above room** temperature T4 and below the second temperature T2 while the stacked **sheet**, **substrate** and carrier plate are being fed to and then transported between the **roller assemblies**. ... outlet; characterized by a pre-proof temperature controlling assembly (8) comprising: a tray (62) with a top surface (64) and a bottom surface (66), the **top** surface extending **from** the housing inlet (54) to about the nip (44) such that when an **image sheet** (30) is placed or stacked on an image receiving **substrate** (32) on a carrier plate (34) on the table and the stacked **sheet**, **substrate** and carrier plate are slid along the table into the housing inlet along the top surface (64) of the **tray** (**62**) into the nip (44) between the first roller assembly (**40**) and the second roller assembly (42), the roller assemblies will transport the **stacked sheet**, **substrate** and carrier plate (30, 32, 34) between the roller assemblies, laminate the **sheet** (**30**) and **substrate** (32) together and transport the laminated **sheet** and **substrate** (30, 32) and the carrier plate (34) out the housing outlet (56) onto the **sheet** output receiving table (**16**); **and** means (68) for controlling the temperature of the stacked **sheet**, **substrate** and **carrier** plate (30, **32**, 34) on the tray (62) at **about** a **third** temperature T3 above room temperature T4 and below the second temperature T2 while the **stacked sheet**, **substrate** and carrier plate are being fed to and then transported between the roller **assemblies** (**40**, 42). In an off-press apparatus... ... having an end mounted to the laminator adjacent the housing outlet; the improvement comprising: a pre-proof temperature controlling assembly comprising: a tray with a **top** surface and **a** bottom surface, the top surface extending from the housing inlet to about the nip such that when **an image sheet** is placed or stacked on an image receiving **substrate** on a carrier plate on the table and the stacked **sheet**, **substrate** and carrier plate are slid along the table into the housing inlet along the top surface of the tray into the nip between the first roller assembly **and the** second roller assembly, the roller assemblies will transport **the** stacked **sheet**, **substrate** and carrier plate between the roller assemblies, **laminate the sheet** and **substrate** together and transport the laminated **sheet** and **substrate** and the carrier plate out the housing outlet onto the **sheet** output receiving table; and means for controlling the temperature of the stacked **sheet**, **substrate** and carrier plate **on the** tray at about a third temperature T3 above room **temperature** T4 **and** below the second temperature T2 **while** the **stacked sheet**, **substrate** and carrier plate are being fed to and **then** transported between the roller assemblies.An off-press method for laminating a first precolored image photosensitive... ... layer; processing the exposed first element to develop a first color image by washing away the first non-image areas with water; stacking the first **image** bearing element **in registration** on the substrate on the carrier plate on a sheet preparation and feed table of a laminator; sliding the stacked first image bearing element, substrate and carrier plate along a tray into a nip between a pair of rollers heated to about a temperature T1 and which are parallel **or** substantially parallel; **laminating the** stacked first **image** bearing element to the substrate by transporting the first image bearing element on the substrate and the carrier plate through a pair of heated rollers...

22/3/5 (Item 5 from file: 350)
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0013989956 *Drawing available*
WPI Acc no: 2004-171038/200417
Related WPI Acc No: 2004-158711

XRAM Acc no: C2004-067789
XRPX Acc No: N2004-136292
Providing image on thermal media involves providing image on image-receiving layer using thermal head, and providing machine readable indicia on protective overlayer by varying temperature
Patent Assignee: ALLEN L E (ALLE-I); BRYANT R C (BRYA-I); EASTMAN KODAK CO (EAST); FROSIG P A (FROS-I); PATTON D L (PATT-I); SIMPSON W H (SIMP-I)
Inventor: ALLEN L E; BRYANT R C; COONS D E; FROSIG P A; GOFF C S; JOHNSON D A; PATTON D L; SIMPSON W H
Patent Family (12 patents, 33 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1388428	A1	20040211	EP 200377635	A	20030729	200417	B
JP 2004066827	A	20040304	JP 2003288853	A	20030807	200417	E
US 20040028880	A1	20040212	US 2002213991	A	20020807	200417	E
			US 2002310519	A	20021205		
US 20040029732	A1	20040212	US 2002213991	A	20020807	200417	E
US 6759369	B2	20040706	US 2002213991	A	20020807	200444	E
US 20040149830	A1	20040805	US 2002213991	A	20020807	200452	E
			US 2002310519	A	20021205		
			US 2004762169	A	20040121		
US 20040150219	A1	20040805	US 2002213991	A	20020807	200452	E
			US 2002310519	A	20021205		
			US 2004761671	A	20040121		
US 20040153476	A1	20040805	US 2002213991	A	20020807	200452	E
			US 2002310519	A	20021205		
			US 2004762177	A	20040121		
US 6790477	B2	20040914	US 2002213991	A	20020807	200460	E
			US 2002310519	A	20021205		
EP 1388428	B1	20051005	EP 200377635	A	20030729	200569	E
DE 60301770	E	20060216	DE 60301770	A	20030729	200618	E
			EP 200377635	A	20030729		
DE 60301770	T2	20060622	DE 60301770	A	20030729	200643	E
			EP 200377635	A	20030729		

Priority Applications (no., kind, date): US 2004762177 A 20040121; US 2004762169 A 20040121; US 2004761671 A 20040121; EP 200377635 A 20030729; US 2002213991 A 20020807; US 2002310519 A 20021205

22/25,K/4 (Item 4 from file: 350)
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0014064086 *Drawing available*
WPI Acc no: 2004-246958/200423
XRAM Acc no: C2004-096496
XRPX Acc No: N2004-195893
Multicolor image forming material includes image receiving sheet comprising substrate and image receiving layer, and at least four heat transfer sheets comprising substrate and image forming layer
Patent Assignee: FUJI PHOTO FILM CO LTD (FUJF)
Inventor: NAKAMURA H
Patent Family (3 patents, 2 countries)

Patent Number	Kind	Date	Update	Type
US 20040041898	A1	20040304	200423	B
JP 2004074560	A	20040311	200423	E

US 6870557	B2	20050322	200521	E

Local Applications (no., kind, date): US 2003639448 A 20030813; JP 2002237467 A 20020816; US 2003639448 A 20030813
Priority Applications (no., kind, date): US 2003639448 A 20030813; JP 2002237467 A 20020816

Alerting Abstract US A1
NOVELTY - A multicolor image forming material comprises an image receiving sheet comprising a substrate and an image receiving layer; and at least four **heat** transfer sheets comprising a substrate and an image forming layer. The **heat** transfer sheets comprise a **heat** transfer sheet of which the image forming layer has a hue having specified values for L* value, a* value and b* value.
DESCRIPTION - A multicolor image forming material comprises an image receiving sheet (20) comprising a substrate (12, 22) and an image receiving layer (24); and at least four **heat** transfer sheets (10) comprising a substrate and an image forming layer (16). Each **heat** transfer **sheet** is **superposed** on the **image receiving sheet** with the image forming layer facing the **image receiving layer** and irradiated with laser light to transfer the irradiated area of the image forming layer to the **image receiving layer** to form an image on the **image receiving sheet**. The four **heat** transfer **sheets** comprise a **heat** transfer **sheet** (X) of which the image forming layer has a hue from a hue having an L* value of 48-58, an a* value of 69-79, and a b* value 36-46; a hue having an L* value of 16-26, an a* value of 19-29, and a b* value of (circled minus)63 to (circled minus)73; a hue having an L* value of 57-67, an a* value of (circled minus)73 to (circled minus)83, and a b* value of 26-36; a hue having an L* value 65-75, an a* value of 50-60, and a b* value of 81-91; a hue having an L* value of 70.3-80.3, an a* value of 73.4-83.4, and a b* value of (circled minus)12.4 to -2.4; (6) a hue having an L* value of 35.4-45.4, an a* value of 16.4-26.4, and a b* value 36.5-46.5; a hue having an L* value of 38.2-48.2, an a* value of 67-77, and a b* value of (circled minus)36.5 to (circled minus)46.5; a hue having an L* value of 90.2-100.2, an a* value of (circled minus)3.6 to 6.4, and a b* value of (circled minus)9.4 to 0.6; or a hue having an L* value 60.8-70.8, an a* value of (circled minus)5.3 to 4.7, and a b* value of -2.9 to 7.1, each in the CIE Lab color space. An absolute difference DeltaD between an optical density of the image forming layer of each **heat** transfer **sheet** and a corresponding target optical density is <=0.2.
USE - For forming a multicolor image with high resolution by imagewise irradiating the **superposed heat** transfer **sheet** with laser light to record an image, and transferring the irradiated area of the image forming layer to the **image receiving sheet** in the form of a **thin** film (claimed).
ADVANTAGE - The invention achieves improved color reproducibility with a broader range of reproducible hues, affords a high quality and large sized direct digital color proofs serving as good approximation to final printed products, and enables forming a high quality transfer image with constant density on an **image receiving sheet** even when high energy multibeams of laser light are used for **heat** transfer recording under different temperature and humidity conditions.
DESCRIPTION OF DRAWINGS - The figure shows a scheme for forming a multicolor image.
10 **Heat** transfer **sheets**
12, 22 **Substrate**
14 Light-**heat** conversion layer
16 Image forming layer
20 **Image receiving sheet**
24 **Image receiving layer**

Technology Focus IMAGING AND COMMUNICATION - Preferred Component: Each **heat** transfer sheet comprises a light-**heat** conversion layer (14) and an intermediate layer so that the light-**heat** conversion layer, the intermediate layer and the image forming layer is in order. It comprises a cushioning layer. At least one layer of the **heat** transfer sheets comprises a matting agent. Preferred Property: A color difference DeltaE between the hue of the image forming layer of each **heat** transfer sheet represented by (L*,a*,b*) and the

corresponding target hue represented by (L0*,a0*,b0*) is <=8. The color different DeltaE is represented by [(L*-L0*)2+(a*-a0-*)2+(b*-b0*)2]2. The image forming layer of each **heat** transfer sheet and the image receiving layer of the image receiving sheet have a water contact angle of 7-120(deg). The multicolor **image** recording area has a size of 515 mm by >=728 mm, or 594 mm by >=841 mm. Preferred Composition: Thee image forming layer of each **heat** transfer sheet comprises >=2 or 35 wt.% pigment.POLYMERS - Preferred Component: The light-**heat** conversion layer of each **heat** transfer sheet comprises a binder having a thermal decomposition temperature of >=450(deg)C. The binder is polyimide **resin**, a polyamide-imide resin, **or** a polyvinyl alcohol resin.

Extension Abstract EXAMPLE - An image receiving sheet was held by suction on a recording drum. A **heat** transfer sheet was superposed on the image receiving sheet with its four edges extending evenly from the edges of the image receiving sheet while being squeezed so that the sheets were brought into intimate contact. The **heat** transfer sheet was **scanned** with semiconductor laser on the surface of the light-**heat** conversion layer. The recorded image size was 515 mm **wide** and 728 mm long, and the resolution was 2600 dpi. The laminate was removed from the drum and the **heat** transfer sheet was stripped off the image receiving sheet to transfer a solid red image to the image receiving sheet. A sheet of printing paper was superposed on the **image receiving sheet** having a transfer image and the laminate was passed through a thermal transfer apparatus. A yellow, magenta, and a cyan solid image was formed on...

Original Abstracts: A multicolor image forming material comprising: an image receiving sheet comprising a substrate and an image receiving layer; and at least four **heat** transfer sheets each **comprising** a substrate and an image forming layer, each of the **heat** transfer sheets being **adapted** to **be superposed** on the **image receiving sheet** with **the image forming** layer facing the **image receiving layer** and **irradiated with laser** light to transfer the irradiated area of the image forming layer to the **image receiving layer** to **form an image** on the **image receiving sheet**, wherein **the at least** four **heat** transfer **sheets** comprise **a heat transfer sheet** (X) **of** which **the** image forming layer has a hue selected from the group defined herein and an absolute difference DeltaD between an optical density of the image forming layer of each of the at least four **heat** transfer **sheets** and **a** corresponding **target** optical density is equal to or smaller than 0.2... ... A multicolor image forming material comprising: an image receiving sheet comprising a substrate and an image receiving layer; and at least four **heat** transfer sheets each comprising a substrate and an **image** forming layer, each of the **heat** transfer sheets being adapted **to** be **superposed** on **the image receiving sheet** with the image **forming layer** facing **the image receiving layer** and irradiated with laser light to **transfer the irradiated** area of the image forming layer to the **image receiving layer** to form an **image** on the **image receiving sheet**, wherein the at least four **heat transfer sheets comprise** a **heat** transfer **sheet** (X) **of** which **the** image forming **layer** has **a** hue selected from the group defined herein and an absolute difference DeltaD between an optical density of the image forming layer of each of the at least four **heat** transfer **sheets** and a corresponding target optical density **is** equal **to** or smaller than 0.2. ...

Claims: claimed is: **1**. A multicolor image forming material comprising: an image receiving sheet comprising a substrate and an image receiving layer; and at least four **heat** transfer sheets each comprising a substrate and an image forming layer, each **of** the **heat** transfer sheets being adapted to be **superposed** on **the image receiving sheet with** the **image** forming **layer** facing the **image receiving layer and irradiated with** laser light to transfer the irradiated area **of the image** forming layer to the **image receiving layer** to form an image on the **image receiving sheet**, wherein **the at least** four **heat** transfer **sheets** comprise a **heat transfer sheet** (X) of which the image forming layer **has** a **hue** selected from **the** group **consisting** of (1) a hue having an L* value of 48 to 58, an a* value of 69 to 79, and a b* value 36 to... ... CIE Lab color space, and an absolute difference DeltaD between an optical density of the image forming layer of each of the at

least four **heat** transfer **sheets** and a corresponding target optical density is equal to or smaller than 0.2....

22/25,K/6 (Item 6 from file: 350)
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0013939062 *Drawing available*
WPI Acc no: 2004-119338/200412
Related WPI Acc No: 2003-811162
XRAM Acc no: C2004-048046
XRPX Acc No: N2004-095327
Decal sheet for, e.g. photographs, includes images on surface and base layer that are identical and coincide
Patent Assignee: KIM J D (KIMJ-I)
Inventor: KIM J D
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
US 20030207092	A1	20031106	200412	B

Local Applications (no., kind, date): US 200272181 A 20020207; US 2003446324 A 20030527
Priority Applications (no., kind, date): US 200272181 A 20020207; US 2003446324 A 20030527

Alerting Abstract US A1
NOVELTY - A decal (102) sheet (100) comprises an image on a surface (104) and having a shape; release paper on the surface over the image; an **adhesive** layer on the release paper and formed in a shape similar to the image shape; a base layer on the **adhesive** layer and formed in a shape similar to the image shape; and another image on the base layer and **identical** to the image. **The image and the other image coincide.**
DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of creating a decal sheet.
USE - For photographs, greeting cards, baseball cards, pamphlets, or advertisements.
ADVANTAGE - The inventive decal sheet can allow the user to transfer the decal without removing the image from the surface.
DESCRIPTION OF DRAWINGS - The figure shows a decal sheet of the invention.
100 Decal sheet
102 Decal
104 Surface

Technology Focus ...resin, fluorine resin, or any coating material used as a releasing agent. The base layer comprises polyvinyl chloride, acryl, urethane, polyurethane, or a resin. The **adhesive** layer **comprises** an aqueous **adhesive** or **an** oily **adhesive**. The **aqueous adhesive** comprises **an** acrylic acid ester polymer. Preferred Method: The release paper is formed by a silk-screen process, an offset printing process, or a coating process. The **adhesive** layer **and** the base layer are formed by a silk-screen process. The image is printed on the surface by offset printing, silk screening, gravure, a letterpress, or a color **scanner**.

Claims: 1. A decal sheet comprising: an image on a surface, wherein the image has a shape; release paper on the surface over the image; an **adhesive** layer on the release paper, wherein the **adhesive layer** is formed in a shape **similar** to the image shape; a **base layer on** the **adhesive** layer, wherein the **base layer** is formed in a shape similar to **the image** shape; and **another image** on the **base layer**, wherein the other image is **identical** to the image and wherein the image and the other image **coincide.**

22/25,K/7 (Item 7 from file: 350)

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0013713683 *Drawing available*
WPI Acc no: 2003-811162/200376
Related WPI Acc No: 2004-119338
XRAM Acc no: C2003-225434
XRPX Acc No: N2003-649437
Decal sheet for e.g., greeting cards, has image on surface, release paper, adhesive layer, base layer, and another image on base layer
Patent Assignee: KIM J D (KIMJ-I)
Inventor: KIM J D
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
US 20030148074	A1	20030807	200376	B

Local Applications (no., kind, date): US 200272181 A 20020207
Priority Applications (no., kind, date): US 200272181 A 20020207

Alerting Abstract US A1
NOVELTY - Decal sheet comprises an image on a surface; release paper on the surface over the image; an **adhesive** layer on the release paper; a base layer on the **adhesive** layer; and another image on the base layer. The **adhesive** and base layers are formed in a shape similar to the image shape. The other image is **identical** to the image. The image and the other image coincide.
DESCRIPTION - An INDEPENDENT CLAIM is included for a method of creating a decal sheet, comprising printing an image on a surface; coating the surface over the image with release paper; applying **adhesive** on the release paper over the image; applying a base layer on the **adhesive**; and printing the image on the base layer, where the image on the base layer and the image on the surface coincide.
USE - For greeting cards, books, photographs, baseball cards, pamphlets and advertisement.
ADVANTAGE - The image can be transferred using the decal (102) without permanently removing the image from the surface.
DESCRIPTION OF DRAWINGS - The figure depicts a decal sheet.
102 Decal
104 Surface

Technology Focus TEXTILES AND PAPER - Preferred Component: The image is printed on the surface by offset printing, silk screening, gravure, a letterpress, or a color **scanner**. The base layer is transparent or opaque. The release paper is formed by a silk screen process, an offset printing process, or a coating process. The **adhesive** and base layers are formed by a silk screen process, respectively... ... Preferred Method: The method further comprises drying the release paper before applying the **adhesive**; drying the **adhesive** before applying the base layer; drying the base layer before printing the image on the base layer; applying a transparent layer over the image on the base layer; and drying the transparent layer. The release paper, the **adhesive**, the base layer and the transparent layer are dried using **heat** or ultraviolet **heat**, respectively... ... resin, fluorine resin, or any coating material used as a releasing agent. The base layer comprises polyvinyl chloride, acryl, urethane, polyurethane, or a resin. The **adhesive** layer **comprises** an aqueous **adhesive** or **an** oily **adhesive**. The **aqueous adhesive** comprises **an** acrylic acid ester polymer. The transparent layer comprises polyurethane or a resin.

Claims: 1. A decal sheet comprising: an image on a surface, wherein the image has a shape; release paper on the surface over the image; an **adhesive** layer on the release paper, wherein the **adhesive layer** is formed in a shape **similar** to the image shape; a **base layer on** the **adhesive** layer, wherein the **base layer** is formed in a shape similar to **the image** shape; and **another image** on the **base layer**, wherein the other image is **identical** to

the image and wherein the image and the other image **coincide.**

22/25,K/8 (Item 8 from file: 350)
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0012251819 *Drawing available*
WPI Acc no: 2002-191830/200225
XRAM Acc no: C2002-059657
XRPX Acc No: N2002-145483
Thermal transfer medium for printer, contains undercoat layer having binder component, resin microparticle, and wax with broad differential scanning calorimetric curve, and thermofusion ink layer orderly on base
Patent Assignee: GENERAL KK (GENH)
Inventor: SHIMIZU K
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
JP 2001347761	A	20011218	200225	B

Local Applications (no., kind, date): JP 2000171395 A 20000608
Priority Applications (no., kind, date): JP 2000171395 A 20000608

Alerting Abstract JP A
NOVELTY - A thermal transfer medium contains an undercoat layer and a thermofusion ink layer orderly on a base material. The undercoat layer contains binder component and microparticle which has resin as main component. The thermofusion ink layer contains binder component and coloring agent which has resin and wax as main component. The undercoat layer contains wax with broad differential **scanning** calorimetric curve.
USE - Used for printers and personal computers.
ADVANTAGE - The thermal transfer medium contains non-**heating** portion in which the thermofusion ink layer is firmly adhered on the undercoat layer, and **heating** portion in which the thermofusion ink is transferred quickly to the image receiving sheet. A clear image is transferred smoothly to the image receiving sheet.
DESCRIPTION OF DRAWINGS - The figure shows broad differential **scanning** calorimetric characteristics of the wax. (Drawing includes non-English language text).

Technology Focus POLYMERS - Preferred Undercoat Layer: The undercoat layer contains 5-30% of wax having broad differential **scanning** calorimetric curve for the amount of resin in the microparticle. Preferred Wax: The wax having broad differential **scanning** calorimetric curve, is polyethylene wax, candelilla wax, micro-crystalline wax, paraffin wax, modified polyethylene wax, modified paraffin wax and/or ester group wax.

Extension Abstract ...Vylon (12), silica Sylysia (8), polyethylene wax Arrow wax, toluene (64) and methyl ethyl ketone (16) was applied on a polyethylene terephthalate (PET) film of **thickness** 5 mum. An undercoat was **formed**. A **heat**-resistant layer is provided on **the** backside of the PET film. Coating agent (B) comprising carnauba wax (20), paraffin wax HNP-10 (50), ethylene-vinyl acetate copolymer EVA350 (6) and carbon... ... of thermofusion ink. The undercoat was remained on the base material completely after printing. The thermofusion ink was quickly and smoothly transferred to the **image receiving sheet**.

22/25,K/9 (Item 9 from file: 350)
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0010500778 *Drawing available*
WPI Acc no: 2001-101689/200111
Related WPI Acc No: 2002-040234
XRPX Acc No: N2001-075456

Image forming device e.g. printer, includes drum having substrate on which release layer material is coated through photoconductive layer, to reduce adhesiveness of toner layer to substrate
Patent Assignee: XEROX CORP (XERO)
Inventor: LIU C; ZHAO W
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
US 6165669	A	20001226	200111	B

Local Applications (no., kind, date): US 1999232817 A 19990119
Priority Applications (no., kind, date): US 1999232817 A 19990119

Alerting Abstract US A
NOVELTY - A release layer applying station (20) applies uniform coating of release layer material to photoconductive layer (16) over grounded **substrate** (14) in a drum (12). An exposing station (24) exposes the photoconductive layer through the release layer. A developing station (26) places a toner layer over the exposed **release layer**. The release layer reduces adhesiveness of **toner layer** to the **substrate** (14).
DESCRIPTION - The release layer comprises clear toner layer and clear fluid layer and has a lower adhesiveness to the substrate (14) than the toner layer. A transfer station transfers the toner layer to a recording medium (28). An INDEPENDENT CLAIM is also included for image forming device usage method.
USE - In e.g. page-**width** print bar-type laser printer and raster-output-**scanning**-type laser printer used in analog photocopier, digital photocopier, facsimile, etc.
ADVANTAGE - Provides efficient transfer of toner image at lower temperatures than that required for transfuse processes. Reduces the ability of the developed image to adhere to the photoconductive drum.
DESCRIPTION OF DRAWINGS - The figure shows the schematic diagram of image forming device.
12 Drum
14 Grounded substrate
20 Release layer applying station
24 Exposing station
26 Developing station
28 Recording medium

Original Abstracts: The release layer reduces the adhesiveness of the toner layer to the image bearing member and, therefore, promotes efficient transfer to another substrate without applying **heat**. Release layer materials include, for example, a clear toner layer, a clear fluid layer and a wax layer. ...

Claims: ...the release layer; placing a toner layer over the exposed release layer; and transferring at least the toner layer from the image bearing member to a substrate; wherein the release layer reduces the adhesiveness of the toner layer to the image bearing member.

22/25,K/10 (Item 10 from file: 350)
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0010351805
WPI Acc no: 2000-667373/200065
XRAM Acc no: C2000-202551
XRPX Acc No: N2000-494626
Thermal transfer recording involves reheating image receiving sheet such that pulse supplying current period per line and impression energy per dot during reheating is less than that during dyestuff transfer
Patent Assignee: KONICA CORP (KONS)
Inventor: FUKUMURO I; FUKUMURO K; MANO S; WATANABE H; YAMATANI Y; YAMAYA Y

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Update	Type
JP 2000247041	A	20000912	200065	B
US 6211894	B1	20010403	200120	E

Local Applications (no., kind, date): JP 199923223 A 19990129; US 1999243368 A 19990201
Priority Applications (no., kind, date): JP 199834096 A 19980201; JP 1998377516 A 19981231

Alerting Abstract JP A
NOVELTY - A support body provided with ink layer containing thermal diffusion property dyestuff is laminated to another **support** body provided with **image receiving layer** and **heated**. The dyestuff is transferred to form an image and reheating is carried out by the **thermal head**. The amount of pulse supplying current period line of **thermal head** and impression energy per dot is low during reheating than that during dyestuff transfer.
USE - For thermal transfer recording.
ADVANTAGE - Image non-uniformity is not produced and an image with excellent shelf-life is obtained.

Technology Focus IMAGING AND COMMUNICATION - Preferred Method: The amount of pulse supplying current supplied per line of **thermal head** is 65-95% and the impression energy per dot is 40-80%. The thermal diffusion property dyestuff can form a chelate as dyestuff precursor in...

Original Abstracts: ...in contact with an ink sheet comprising a thermally transferable dye, and the dye is transferred to the image-receiving layer in accordance with imagewise-**heating** by a **thermal head**, the image-receiving layer having dye image formed by dye transfer is subjected to re-**heating** through a **thin** film material by **thermal head.**

Claims: An image forming process comprising **superposing** an ink **sheet on** an **image-receiving** element, said **ink sheet** including an ink **layer** which contains a thermal transfer dye, said image-receiving element comprising **an image-receiving layer** adapted **to** accept said thermal transfer dye, whereby said ink layer is brought into contact with said **image-receiving layer**; imagewise treating the **superposed** ink **sheet** and the image-**receiving** element by a **thermal head** for a first time period per scanning line of said **thermal head**, whereby said dye of said **ink sheet** is transferred to the **image-receiving layer** to form a transferred image; bringing a thin film material into contact with an image-**forming** surface of said ink **sheet** carrying said transferred image; reheating said transferred **image** by a **thermal head** for a second time period per scanning line of said **thermal head**, said second time period being shorter than said first time period; and supplying a second amount of energy to said **thermal head** during said reheating which is less than a first amount **of energy** which provides maximum density during said imagewise **heating.**

22/25,K/11 (Item 11 from file: 350)
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0010280610 *Drawing available*
WPI Acc no: 2000-593711/200056
XRPX Acc No: N2000-439660
Toner layer transferring method involves placing overlayer with higher cohesiveness and adhesiveness over toner layer that is placed over bearing unit
Patent Assignee: XEROX CORP (XERO)
Inventor: LIU C; ZHAO W
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type

US 6120965	A	20000919	200056	B

Local Applications (no., kind, date): US 1999232816 A 19990119
Priority Applications (no., kind, date): US 1999232816 A 19990119

Alerting Abstract US A
NOVELTY - A toner layer is placed over an **image bearing unit** to form a toner image with ineffective contact transfer properties. An **overlayer** with higher cohesiveness and adhesiveness than the toner layer is placed over the toner layer. A **substrate** is pressed against the image bearing unit to transfer the **overlayer** and toner layer from the image bearing unit to the **substrate**.
DESCRIPTION - An INDEPENDENT CLAIM is also included for an image forming system.
USE - For transferring toner image from image bearing unit to the substrate used in analog photocopier, digital photocopier, facsimile, raster output **scanner** type laser printer or photocopier, page **width** print bar type laser printer or photocopier.
ADVANTAGE - The toner image is transferred form the image bearing unit to the substrate effectively by placing the over layer with higher cohesiveness and adhesiveness over the toner layer.
DESCRIPTION OF DRAWINGS - The figure shows the block diagram of image forming device.

Original Abstracts: ...member. The **overlayer** reduces the adhesiveness of the toner layer to the image bearing member and, therefore, promotes efficient transfer to another substrate without applying **heat**. The **overlayer** also may have a higher cohesiveness and combine with the toner layer to increase the effective cohesiveness of the toner image to increase...

Claims: A method for contact transferring a toner layer from an image bearing member to a substrate, comprising: placing a toner **layer over** the **image bearing member** to form a toner image that has ineffective contact transfer properties; placing an **overlayer over** the toner **layer**, the **overlayer having** at least **one** of **increased** cohesiveness and increased adhesiveness over that of the toner **layer**; **and** pressing the **substrate** against the image bearing member to transfer **the overlayer** and the toner layer from the image **bearing** member to the **substrate.**

22/25,K/12 (Item 12 from file: 350)
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0007876241
WPI Acc no: 1996-507601/199651
XRAM Acc no: C1996-159237
XRPX Acc No: N1996-427709
Image forming kit for prepn. of multicoloured images - comprises a pigment and amorphous polymer-contg. ink sheet, and a polymer and fluorine-contg. anionic surfactant image-receiving sheet.
Patent Assignee: FUJI PHOTO FILM CO LTD (FUJF)
Inventor: NAKAMURA H
Patent Family (5 patents, 3 countries)

Patent Number	Kind	Date	Update	Type
EP 743195	A1	19961120	199651	B
JP 9030128	A	19970204	199715	E
US 5762743	A	19980609	199830	E
EP 743195	B1	19990811	199936	E
DE 69603657	E	19990916	199944	E

Local Applications (no., kind, date): EP 1996107823 A 19960515; JP 1996145113 A 19960515; US 1996647624 A 19960515; EP 1996107823 A 19960515; DE 69603657 A 19960515; EP 1996107823 A 19960515

Priority Applications (no., kind, date): JP 1995115696 A 19950515

Alerting Abstract EP A1
An image forming kit comprises an ink sheet and an **image receiving sheet**. The ink sheet comprises a **support sheet** and an ink layer of 0.2-1.0 mum **thick**, comprising 30-70 pts. wt. of a particulate pigment and 25-60 pts. wt. of an amorphous polymer with a softening point of 40-150(deg)C. The **image receiving sheet** comprises a **support sheet**, an intermediate layer and an **image-receiving layer**, the intermediate layer comprising a polymer and a fluorine atom-contg. anionic surfactant.
Also claimed is an **image receiving sheet** comprising a **support sheet**, an intermediate layer and an **image-receiving layer**, in which the intermediate layer comprises a polymer and a fluorine atom-containing anionic surfactant.
Also claimed is a process for prepn. of a multi-colour image.
USE - Used for the prodn. of a multi-colour image composed of three or four colour inks on a final image support sheet.
ADVANTAGE - The formation of a multicolour image of high quality necessary for the prodn. of a colour proof is possible by the use of a fluorine atom-contg. anionic surfactant.

Documentation Abstract ...an ink sheet and an image receiving sheet. The ink sheet comprises a support sheet and an ink layer of 0.2-1.0 mum **thick**, comprising 30-70 pts. wt. of a particulate pigment and 25-60 pts. wt. of an amorphous polymer with a softening point of 40-150... ...1) placing an ink sheet which comprises a support sheet and an ink layer of 0.2-1.0 mum **thick** comprising 30-70 pts. wt. of a coloured particulate pigment and 25-60 pts. wt. of an amorphous polymer having a softening point of 40... ...2) imagewise **heating** the image forming composite... ...4) placing another ink sheet which comprises a support sheet and an ink layer of 0.2-1.0 mum **thick** comprising 30-70 pts. wt. of a coloured particulate pigment of another colour and 25-60 pts. wt. of an amorphous polymer having a softening... ...5) imagewise **heating** the image forming composite obtd. in step (4 ...2) the ink layer is 0.2-0.8 mum **thick**; (... ...An image receiving sheet having an image receiving layer (**thickness** 2 mum) and an intermediate layer (**thickness** 20 mum) on a polyester support (**thickness** 100 mum) was prepdThe cyan ink **sheet** was **superimposed** on the **image receiving sheet**, and a **thermal head** was placed on the cyan ink **sheet** side for imagewise forming a cyan image by sub-**scanning** method. The support of the cyan ink **sheet** was then peeled off from the **image receiving sheet** on which a cyan image with area gradation was formed. On the **image receiving sheet** having the cyan image was superimposed the magenta ink **sheet**, and the same procedure was repeated for placing a magenta image with area gradation on the **image receiving sheet** having the yellow image. The yellow ink **sheet** was then **superposed** on the **image receiving sheet** having the cyan and magenta images thereon in the same manner, and the same procedure was repeated for placing a yellow image with area gradation on the **image receiving sheet**. ... ...An art paper **sheet** was then placed on the **image receiving sheet**, and they were passed through **heat** rollers at 130(deg)C. The polyester film of **image receiving sheet** together with the intermediate layer was peeled off, leaving the multicolour image and the **image-receiving layer** on the art paper **sheet**. The quality of the obtd. multicolour image was high. The **adhesive** strength between the intermediate layer and the **image-receiving layer** was measured as 5.0 g/cm (at least 2 kg/cm) and the ease of transfer of the multi-colour image from the **image-receiving sheet** to the final image support also assessed as smooth (difficult). Values in brackets are for a multicolour image obtd. as above, but substituting the anionic

Original Abstracts: ...sheets and an image receiving sheet. The ink sheet is composed of a support sheet and an ink layer of 0.2-1.0 - microm **thick** composed of 30 **to** 70 weight parts of a particulate pigment and 25 to 60 weight parts of an amorphous polymer having a softening point of 40-150(deg... ... sheets and an image receiving sheet. The ink sheet is composed of a support sheet and an ink layer of 0.2-1.0 mum **thick** composed of 30 to 70 weight parts of **a** particulate pigment and 25 to 60 weight parts of an amorphous polymer having a softening point of 40(deg)-50(deg) C. The image-receiving... ...

Claims: ...sheet and an image receiving sheet, wherein the ink sheet comprises a support sheet and an ink layer of 0.2 to 1.0 microm **thick** comprising **30** to 70 weight parts of a particulate pigment and 25 to 60 weight parts of an amorphous polymer having a softening point of 40 to... ... sheet and an image receiving sheet, wherein the ink sheet comprises a support sheet and an ink layer of 0.2 to 1.0 microm **thick** comprising 30 to 70 weight parts of a particulate **pigment** and 25 to 60 weight parts of an amorphous polymer having a softening point of 40 to 150(deg)C, and the image receiving sheet... ... which comprises the steps of:1) placing an ink sheet which comprises a support sheet and an ink layer of 0.2 to 1.0 **mum** thick comprising 30 to 70 weight parts of a colored particulate pigment and 25 to 60 weight **parts** of an amorphous polymer having a softening point of 40(deg) to 150(deg) C. on an image receiving sheet which comprises a support sheet... ... a polymer and a fluorine atom-containing anionic surfactant, to give an image forming composite comprising the ink sheet and the image receiving sheet;2) **imagewise** heating the image forming composite;3) removing the support sheet of the ink sheet form the image receiving sheet **leaving** an ink image on the image-receiving layer;4) placing another ink sheet which comprises a support sheet and an ink layer of 0.2 to 1.0 **mum** thick comprising 30 to 70 weight parts of a colored particulate pigment of another color and 25 to 60 weight parts of an **amorphous** polymer having a softening point of 40(deg) to 150(deg) C. on the ink image left on the image-receiving layer in the step 3) above, to give another image forming composite;5) **imagewise** heating the image forming composite given in the step 4) above;6) removing the support sheet of the ink sheet from the image receiving sheet **leaving** another ink image on the image-receiving layer;7) repeating once or twice the steps 4) through 6) using one or two ink sheets having...

22/25,K/14 (Item 14 from file: 350)
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0007091778 *Drawing available*
WPI Acc no: 1995-118402/199516
XRAM Acc no: C1995-054053
XRPX Acc No: N1995-093306
Image forming method, giving durability, preventing forgery - includes forming pigment image on receiving layer, by image-wise heating, heat treating with thermal head through thin film
Patent Assignee: KONICA CORP (KONS)
Inventor: KAWAMURA T; KITAMURA S; KOSHIZUKA K; TAKIMOTO M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Update	Type
JP 7040558	A	19950210	199516	B

Local Applications (no., kind, date): JP 1993188425 A 19930729
Priority Applications (no., kind, date): JP 1993188425 A 19930729

Alerting Abstract JP A
Image receiving ingredient with an image **receiving layer** (3) faces an ink sheet with an ink layer contg. sublimate pigment. The pigment image formed on (3) by image-wise **heating** is treated with **heat** in a **thermal head** through a **thin** film.
Migration velocity of the image receiving ingredient and energy applying cycle are set so that the relative migration length of the image receiving ingredient is less than the **width** of an exothermic register of sub- **scanning** direction (migration direction) of the **thermal head**.
In the fig. (1) = IC card; (2) = support of image receiving ingredient; (4) = image **protective layer**; (5) = written layer; (6) = image; (7) = image forming surface/**adhesive** surface of image **protective layer**; (8) = void.
The **thickness** of the support is, 20-1000 milli-micron, pref. 20-800 milli-micron, **thickness** of (3) is 1-50 milli-micron, pref. 2-20 milli-micron.

ADVANTAGE - Image forming gives durability to image forming materials and prevents forgery.

22/25,K/15 (Item 15 from file: 350)
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0006550817 *Drawing available*
WPI Acc no: 1993-361150/199346
XRAM Acc no: C1993-160066
XRPX Acc No: N1993-278808
Three-dimensional image prodn.. - sing lenticular screen and radiation sensitive layer enabling 3-D image to be formed from virtual object
Patent Assignee: POLAROID CORP (INTP)
Inventor: TELFER S J; ZURAW M J
Patent Family (6 patents, 6 countries)

Patent Number	Kind	Date	Update	Type
EP 569896	A1	19931118	199346	B
US 5279912	A	19940118	199404	E
CA 2092398	A	19931112	199406	E
EP 569896	B1	19961204	199702	E
DE 69306299	E	19970116	199708	E
US 5681676	A	19971028	199749	E

Local Applications (no., kind, date): EP 1993107520 A 19930508; US 1992881125 A 19920511; CA 2092398 A 19930324; EP 1993107520 A 19930508; DE 69306299 A 19930508; EP 1993107520 A 19930508; US 1992881125 A 19920511; US 1993121045 A 19931020
Priority Applications (no., kind, date): US 1993121045 A 19931020; US 1992881125 A 19920511

Alerting Abstract EP A1
Method comprises providng an imaging medium having on one surface a lenticular screen, the lenticules dividing the opposed surface of the imaging medium into a plurality of elongate image areas, the imaging medium having on the opposite side a radation-sensitive layer, and imagewise exposing this layer to actinic radiation to form in the radiation-sensitive layer a composite image comprising, in each of the image areas, a plurality of image strips extending lengthwise along the image area each strip contg. information from a view of the object, each of the plurality of strips in one image area contg. information from a different view of the object, so that a 3-dimensional orthoscopic image of the object will appear to n observer seeing the composite image in the radiation-sensitive layer through the lenticular screen, the radiation sensitive layer comprising a colour-forming compsn. which undergoes a colour cahnge on an incrase in temp. above a colour-forming temp. for a colour-forming time, the actinic radiation causing the colour change in exposed areas, the actinic radiation not passing through the lenticular screen.
Also claimed are a method of printing an image on a lenticular sheet **in registration** with the lenticles thereof, the imaging medium as described, and an exposed imaging medium bearing a three-dimensional image produced by the exposure of a colour-forming compsn. to **heat**.
USE/ADVANTAGE - Provides a method of producing a 3-dimensional image of e.g. a virtual object without the need to first produce a real copy of the object. It is esp. useful for producing hard copies in e.g. computer aided design applications.

Claims: A method for printing an image on a lenticular sheet **in registration** with the lenticles thereof, the image comprising a plurality of image areas each of which is to be printed in register with a lenticle of... ... sensitive to radiation of a first wavelength but essentially insensitive to radiation of a second wavelength; directing a

first beam of radiation of the second **wavelength on** to the surface of the lenticular sheet bearing the lenticles, thereby causing this first beam to pass through the lenticular sheet, and detecting the periodic variation of the radiation on the side of the lenticular sheet bearing the radiation-sensitive layer; **scanning** a second beam of radiation of **the** first wavelength **over the** radiation-sensitive layer without passing the second beam through the lenticles of the lenticular **sheet** while modulating the intensity of the second beam, thereby imagewise exposing the radiation-sensitive layer to produce the image, the modulation **of** the second beam being controlled in dependence upon the detected periodic variation so **that** each image area of the image is formed in register with a lenticle of **the** lenticular **sheet.**

22/25,K/16 (Item 16 from file: 350)
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0004763288 *Drawing available*
WPI Acc no: 1989-131691/198918
Related WPI Acc No: 1989-123971; 1989-123972
Booklet with composite portrait and personal data image - has identification sheet with image-receiving layer sandwiched between separately-bound backing sheet and transparent covering
Patent Assignee: FUJI PHOTO FILM CO LTD (FUJF)
Inventor: HARA H; OSHIKOSHI Y; SAKAMOTO K; SHIOTA K; SUGANUMA Y; TAKEHARA N
Patent Family (3 patents, 2 countries)

Patent Number	Kind	Date	Update	Type
EP 314134	A	19890503	198918	B
EP 314134	B1	19940622	199424	E
DE 3850342	G	19940728	199429	E

Local Applications (no., kind, date): EP 1988117933 A 19881027; EP 1988117933 A 19881027; DE 3850342 A 19881027; EP 1988117933 A 19881027
Priority Applications (no., kind, date): JP 1987272370 A 19871028; JP 198851199 A 19880304; JP 198851200 A 19880304

Alerting Abstract EP A
The composite image incorporates a photograph and optically-readable personal data is assembled and edited on a CRT and printed on an image-**receiving layer** (1) about 0.01 mm **thick** on an identification sheet (9) inside the front cover of the booklet (5). **The image is covered with transparent plastic** (2) about 0.05 to 0.35 mm **thick** and backed by **a supporting sheet** (3) of paper or composite material. An **adhesive** layer (4a) is attached to the back of the transparent sheet (2) with a peelable covering (6a) of slightly larger area, whose edges (6a) are easily gripped by the fingers for peeling. USE/ADVANTAGE - **Machine readable** passport. Holder's identity is represented in form which is more difficult to forge or modify and can be rationalised automatic process.

Original Abstracts: ...or alphabets in an optically readable data printing section defined in the image receiving layer. The transparent sheet and the supporting sheet are adhered with **adhesive** layers (4a,4b) to sandwich the identification data bearing sheet therebetween. ...

Claims: ...photograph and optically-readable personal data is assembled and edited on a CRT and printed on an image-receiving layer (1) about 0.01 mm **thick** on an identification sheet (9) inside the front cover of the booklet (5... ... The image is covered with transparent plastic (2) about 0.05 to 0.35 mm **thick** and backed by a supporting sheet (3) of paper or composite material. An **adhesive** layer (4a) is attached to the back of the transparent sheet (2) with a peelable covering (6a) of slightly larger area, whose edges (6a) are... ... 3) to sandwich said identification data bearing sheet (9) therebetween,

characterised in that, said identification data bearing sheet is provided over its surface with an **image receiving layer** (1) to which a composite image of said picture and personal data is formed, said composite image being optically formed on a photosensitive **heat**-developable **sheet** and then transferred onto said **image receiving layer** (1) by way of a **heat**-developed image transfer process.

22/7/17 (Item 1 from file: 347)
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02886059 **Image available**
IMAGE FORMING DEVICE
Pub. No.: 01-183659 [JP 1183659 A]
Published: July 21, 1989 (19890721)
Inventor: NAGATA SHOICHI
OHASHI KUNIO
Applicant: SHARP CORP [000504] (A Japanese Company or Corporation), JP (Japan)
Application No.: 63-006675 [JP 886675]
Filed: January 14, 1988 (19880114)
ABSTRACT
PURPOSE: To eliminate the variance of luster of an image or its transmittivity by providing a means for setting a **heating** temperature corresponding to a material and **thickness** of an image receiving sheet.
CONSTITUTION: By a light beam from an optical system 51, a document on a document placing table 50 is **scanned**, its reflected light is led onto a main drum 41 and a light accepting **sheet** from a roller 42 is exposed. Subsequently, said **sheet** is **superposed** on an **image receiving sheet** from a feed paper cassette 44, pressed at a pressure point P2, developed and transferred, and thereafter, the **image receiving sheet** is lustered by an image lustering device 47, and discharged to a discharge paper tray 49. In such a case, a **heating** temperature in the device 47 is set to a temperature corresponding to a material and **thickness** by an input from an operating panel of the device or a detection by a detector. In such a way, in case of paper, and in case of an OHP **sheet**, luster and an image of satisfactory light transmittivity are obtained stably, respectively.

23/7/13 (Item 1 from file: 347)
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07478842 **MULTICOLOR IMAGE FORMING MATERIAL AND METHOD FOR FORMING MULTICOLOR IMAGE**
Pub. No.: 2002-347360 [JP 2002347360 A]
Published: December 04, 2002 (20021204)
Inventor: YOSHINARI SHINICHI
SHIMOMURA TERUHIRO
YAMAMOTO MITSURU
HATAKEYAMA AKIRA
Applicant: FUJI PHOTO FILM CO LTD
Application No.: 2002-011885 [JP 200211885]
Filed: January 21, 2002 (20020121)
Priority: 2001-018768 [JP 200118768], JP (Japan), January 26, 2001 (20010126)
2001-050351 [JP 200150351], JP (Japan), February 26, 2001 (20010226)
2001-079546 [JP 200179546], JP (Japan), March 19, 2001 (20010319)
ABSTRACT
PROBLEM TO BE SOLVED: To provide a DDCP of a large size having a high quality level/high stability and excellent printing coincidence.
SOLUTION: A multicolor image forming material comprises an **image receiving layer** having an **image receiving layer**, and a thermal transfer **sheet** having at least a photothermal conversion layer and the image forming layer on a support and containing at least four

types of different colors. The material records the image by oppositely **superposing** the image forming layer of each thermal transfer **sheet** and the **image receiving layer** of the **image** receiving **sheet**, irradiating the **superposed layers** with a laser beam, and transferring the laser beam irradiated region of the image forming layer on the **image receiving layer** of the **image receiving sheet**. In this material, a **thickness** of the image forming layer of each thermal transfer **sheet** is 0.01 to 1.5 μm, and a **width** of the laser beam of the laser transferred image is 0.8 to 2.0 times as large as a half value and half **width** of those of an energy distribution in a sub- **scanning** direction by integrating a two-dimensional energy distribution of a laser beam spot in a main **scanning** direction. A method for forming the multicolor image uses the multicolor image forming material.
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Set	Items	Description
S1	1565959	S LABEL? ? OR STICKER? ? OR TAG? ? OR TICKET? ? OR CARD? ? OR SUBSTRATE? ? OR SUBSTRATUM OR SUBSTRATA OR BASE()LAYER? ? OR SHEET? ? OR THERMAL()(MEDIUM OR MEDIA)
S2	854	S (IMAGE()RECEIVING OR IMAGE)()LAYER? ?
S3	78010	S (PROTECTIVE OR PROTECTING OR DONOR OR SUPERIMPOSED OR SUPERPOSED)()LAYER? ? OR OVERLAYER? ? OR LAYER? ?(2N)(SUPERIMPOS??? OR SUPERPOS??? OR OVER OR TOP)
S4	2535424	S IMAGE OR IMAGES OR CODE OR CODES OR BARCODE OR BARCODES OR UPC OR INDICIA OR INDICIUM OR SYMBOL? ? OR MARKING? ? OR GRAPHIC? ?
S5	972164	S IDENTICAL OR "IN" ()REGISTRATION OR ALIGN? OR MATCH?
S6	3442884	S WIDE OR WIDER OR WIDTH OR THICK?? OR THICKNESS?? OR THIN OR THINNER
S7	756875	S (MACHINE OR COMPUTER)()READABLE OR SCANN????
S8	2369070	S THERMAL()HEAD? ? OR HEAT OR HEATS OR HEATED OR HEATING OR HEATER? ?
S9	121205	S ADHESIVE
S10	19	S S1 AND S2 AND S3
S11	0	S S10 AND S5 AND S6
S12	7	S S10 AND S5:S6
S13	**1**	**S S12 AND S8:S9 [too recent]**
S14	**6**	**S S12 NOT S13**
S15	12	S S10 NOT S12
S16	12	RD (unique items)
S17	**12**	**SORT S16/ALL/PY,A**
S18	41	S S1 AND S3 AND S4(S)S5 AND S6
S19	0	S S8:S9 AND S18
S20	41	S S18 NOT S10
S21	30	RD (unique items)
S22	3	S S21/2003:2004
S23	5	S S21/2005
S24	5	S S21/2006:2007
S25	17	S S21 NOT S22:S24
S26	**17**	**SORT S25/ALL/PY,A**

14/7/4 (Item 1 from file: 248)
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PIRA
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00624582 **Pira Accession Number:** 40039616
Title: Thermal Transfer Material
Authors: Kuga Y; Mochizuki H; Sekiyama M